

DOCUMENT RESUME

ED 389 145

EC 304 432

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 TITLE Hearing Impaired Children's Retelling of Stories
 Following Presentation in Whole-Class and Individual
 Contexts.
 PUB DATE [Jul 95]
 NOTE 17p.; Paper presented at the International Congress
 on Education of the Deaf (18th, Tel Aviv, Israel,
 July 16-20, 1995).
 PUB TYPE Reports - Research/Technical (143) --
 Speeches/Conference Papers (150)
 EDRS PRICE MF01/PC01 Plus Postage.
 DESCRIPTORS American Sign Language; *Deafness; Grade 1; *Grouping
 (Instructional Purposes); *Hearing Impairments;
 Individual Instruction; Instructional Effectiveness;
 *Listening Comprehension; Performance Factors;
 Primary Education; *Reading Aloud to Others; Recall
 (Psychology); Small Group Instruction; Story Reading;
 *Story Telling
 IDENTIFIERS *Group Size

ABSTRACT

This study investigated the ability of six first graders with moderate to severe hearing impairment to recall a story using four reading presentation conditions: (1) group reading with interaction, (2) group reading without interaction, (3) individual reading with interaction, and (4) individual reading without interaction. Four books (one book for each condition) were simultaneously signed in American Sign Language and read aloud to the children. The children waited approximately 20 minutes after the stories were read and then retold them to the classroom teacher. Analysis of the videotaped retellings revealed that the group interactive reading presentation seemed to be more effective in facilitating children's recall of the story compared to the other three conditions. The group interactive condition was consistently more effective in each of the three categories assessed (number of spoken and/or signed utterances used in retelling, number of events recalled, and inclusion of primary story elements). Results are discussed in light of other research suggesting that reading to small groups of children is more effective than reading to either individual children or larger groups. (Contains 13 references.)
 (Author/DB)

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HEARING IMPAIRED CHILDREN'S
RETELLING OF STORIES FOLLOWING PRESENTATION
IN WHOLE-CLASS AND INDIVIDUAL CONTEXTS

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HEARING IMPAIRED CHILDREN'S RETELLING OF STORIES FOLLOWING PRESENTATION IN WHOLE-CLASS AND INDIVIDUAL CONTEXTS

ABSTRACT

This study investigated the ability of six first graders who were hearing impaired to recall a story using four reading presentation conditions: 1) group reading with interaction, 2) group reading without interaction, 3) individual reading with interaction, 4) individual reading without interaction. Four books (one book for each condition) were simultaneously signed in American Sign Language (ASL) and read aloud to the children using the four presentation conditions. The children waited approximately twenty minutes after the stories were read, and then retold them to the classroom teacher. Analysis of the videotaped retellings revealed that the group interactive reading presentation seemed to be more effective in facilitating children's recall of a story when compared to the other three conditions. The group interactive condition was consistently more effective in each of the three categories assessed (number of spoken and/or signed utterances used in retelling, number of events recalled, and inclusion of primary story elements).

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Reading to young children has been shown to make an important contribution to learning to read (Cochran-Smith, 1984; Kimmel & Segel, 1991; Martinez, 1983; Teale, 1981). As a matter of fact, Wells (1986) found that the occurrence of interactive reading events with preschool children was the single best predictor of later school success. He and other authors have noted the importance of interactive reading with children where adults match their reading/story telling to the child's interests, language level, background information and experience (Morrow & Smith, 1990; Wells, 1986). Trelease (1989) suggests that reading to young children not only enhances vocabulary and grammar, but also stimulates the child's imagination, improves listening comprehension and attention span, nurtures emotional development, and establishes the reading-writing connection. Teale (1984) adds that it can foster a positive attitude toward reading.

It is well known that children with hearing impairment are at risk for difficulties in learning to read (LaSasso, 1987; Wood, Wood, Griffiths & Howarth, 1986; King & Quigley, 1985; Bockmiller & Coley, 1981). There is a strong need for developing strategies for helping these children compensate for their language gaps and for helping them comprehend printed material.

Several researchers have attempted to determine the optimal conditions for reading to children. Morrow (1988) found that one-

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to-one story readings were helpful in eliciting responses that focused on text and story structure. Morrow and Smith (1990) found that of one-to-one, small group and whole class reading contexts, the small group seemed optimal in facilitating comprehension. Martines (1983) and Cochran-Smith (1984) observed that adults can play important roles in mediating comprehension through their interaction with children while reading to them. Thomas (1991) investigated the ability of typical preschool children to retell a story after hearing it under two conditions: 1) a group of twelve children where the reader simply read the story with no interaction with the children, and 2) an interaction between one adult and one child where the adult talked about the story with the child. Thomas found that the children who heard the story in the individual, interactive mode recalled a greater number of events from the stories and that more of these children included the primary story elements of situation/setting and solution/resolution. All of the children in both groups included the story elements of problem and attempts.

In light of the important of enhancing literacy skills of children with hearing impairment, it would be useful to determine whether the factors of group size and interaction influence their comprehension when stories are read aloud (simultaneous presentation through signing and speaking). Because Thomas' (1991) study with typical children collapsed the factors of group size and interaction, it could not be determined whether the differences in

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children's recall were influenced more by the size of the group or the interaction with the reader. Therefore, the present study included the four conditions: group reading with interaction, group reading without interaction, individual reading with interaction, individual reading without interaction in order to determine which presentation mode made recall easiest for the children with hearing impairment.

METHOD

Subjects

The subjects were six first grade children with hearing impairment. Two children were seven years old; three were eight years; and one was nine. The children were enrolled in a school for hearing impaired children. Four of the children were day students and two were residential. Five children had severe to profound bilateral hearing loss and one child had a moderate to severe bilateral loss. Five children had congenital hearing loss and one child had an acquired loss during infancy due to meningitis. Four of the children wore binaural hearing aids and the other two had cochlear implants.

According to the classroom teacher, all of the children had experience with listening to stories in a group, but not all of them had experience with individual interactive reading. The children were familiar with retelling stories, but this was not done in the classroom on a regular basis.

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Procedures

For the group presentations, an adult classroom aide who was fluent in sign language read the stories aloud to all of the children while signing in ASL. The children were seated on the floor in a semi circle in front of the story teller. For each page of text, she showed the picture and text to the children prior to reading it to them. In the interactive group condition, the children were encouraged to talk about the story, and their comments and questions were addressed and discussed. In the non-interactive group condition, any comments or questions posed by the children were not addressed, and the reader did not attempt to engage the children in discussion about the story. For the individual presentations, the same adult read a story to each child separately. The same procedures were followed for the interactive and non-interactive conditions as for the group conditions.

Four different, but similar books were used. Some sections of the books were rewritten or omitted in order to make the books comparable in terms of total length (29 pages), number of major characters (one or two), number of events (12, 13, or 14) and number of primary story elements (6), while still maintaining the integrity of the story and its relationship to the pictures in the book. The primary story elements contained in each book were: setting, presteps, problem, attempts, resolution, ending. None of the four books were familiar to the children.

A different book was used for each storytelling condition.

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For the individual interactive presentation three of the children heard *Hanna's Butterfly*, and three heard *Tim and Jim Take Off*. The presentation of the books was reversed for the non-interactive condition. The design of the study did not permit counter balancing the books for the group presentation conditions.

Approximately 20 minutes after hearing the story, each child retold the story to the classroom teacher who was not involved in reading the books to the children. The listener provided only minimal cuing to encourage the children to tell the story, consisting of statements like, "Can you tell me more?" "What else happened?" The children's retellings were audio and videotaped and subsequently transcribed for analysis.

The following measures were used to evaluate the children's retelling of the stories:

1. number of utterances produced by the children in retelling the story.
2. number of story events recalled by the children. The events of each story were determined by the first author and one other researcher.
3. primary story elements included in the retelling. The following six primary story elements were identified for the four stories: setting, presteps, problem, attempts, resolution, ending. The criterion for inclusion of the story elements of presteps and attempts was the recall of at least 50% of the identified presteps or attempts.

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To determine reliability of scoring, a second judge independently scored twelve of the 22 transcripts. The overall percentage of reliability between the two judges for total number of utterances produced, total number of event recalled, and inclusion of six primary story elements was 93%. Reliability for each of the categories (number of signed utterances, number of events recalled, and inclusion of primary story elements) was also examined separately. Reliability for total number of signed utterances was 95%; for total number events recalled, reliability was 85% and for inclusion of primary story elements, it was 100%.

RESULTS

A two-way mixed design analysis of variance (treatments by treatments by subjects) was used to test for significant differences between the influence of group size (group versus individual) and mode of story telling (interactive versus non-interactive) on the number of utterances used in retelling. Results of the analysis of variance did not reveal a significant difference for the main effect of group size ($F=.23$, $df=1/5$, $p .05$) or for the main effect of mode of presentation($F=6.57$, $df=1/5$, $p .05$); however there was a significant interaction effect ($F=16.11$, $df=1/5$, $p .05$). Post hoc comparison of the means (Table 1) showed that when the children heard the story under the group, interactive presentation, they produced a significantly larger number of utterances (19.6) when retelling the story than when they heard it

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under all other conditions. There were no differences among any of the other conditions.

A second analysis of variance testing the difference in number of story events recalled did not reveal a significant difference between the group and individual story presentation conditions ($F=.042$, $df=1/5$, $p .05$) or between the interactive and non-interactive conditions ($F=1.55$, $df=1/5$, $p .05$). In addition, there was no significant interaction. However, children again recalled the greatest number of events (9.8) following the group, interactive reading (Table 2).

A third analysis of variance revealed no significant difference between the group and individual presentations for the number of primary story elements included in the retelling ($F=1.48$, $df=1/5$, $p .05$). There was, however, a significant difference between the number of primary story elements included under the interactive and non-interactive conditions, with the interactive conditions producing a greater number of story elements ($F=9.74$, $df=1/5$, $p .05$). There was no significant interaction. The means are shown in Table 3.

When each story element (setting, presteps, problem, attempts, resolution, ending) was examined individually, the group interactive reading condition appeared to be the most effective overall in facilitating the children's inclusion of setting, presteps, problem, attempts, resolution, and ending. Both interactive and non-interactive group reading proved equally

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effective for inclusion of setting, and individual non-interactive was equally effective in eliciting resolution.

DISCUSSION

The statistical results of this study indicate that in comparison to individual presentation and to non-interactive presentation, a group interactive reading presentation best facilitated recall of story events, inclusion of important story elements, and even increased the utterances of this sample of children who are hearing impaired. The assumption is that these overt demonstrations of recall suggest underlying comprehension of the story. Therefore, to improve comprehension of stories by children with hearing impairment it may be beneficial to routinely include social interaction in read-aloud experiences. These interactions should optimally allow the child to directly interact with the adult, the book and other children.

In comparing our findings to those with typical children (Thomas, 1991), it was interesting to note that the group interactive condition, rather than the individual interactive condition seemed to be the most facilitating. Two factors may be pertinent. First, the study by Thomas (1991) did not tease out the influence of group size versus interaction. Second, the group size in the Thomas study was twelve whereas in this study, it was six. It may be that six is a more optimal group size than twelve. This is in line with the findings of Morrow and Smith (1990), who found

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that reading to a group of three children was preferable to reading to children individually or in a group as large as 15. Further research regarding optimal group size may be warranted.

A small group reading activity is feasible in most school settings. Most self contained classrooms for children with hearing impairment have fewer students than regular education classroom; therefore small interactive group readings can be used. Morrow and Smith (1990) suggest that the benefits of small group reading instruction include enhancement of comprehension and overall literacy development in general as well as providing the children with opportunities to serve as models for those children who are less likely to participate in an interactive reading process.

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Table 1. Mean number of signed utterances and standard deviations
for group and individual and interactive and non-interactive
presentation conditions.

	<u>Group</u>		<u>Individual</u>		<u>Combined Means</u>	
	<u>x</u>	<u>SD</u>	<u>x</u>	<u>SD</u>	<u>x</u>	<u>SD</u>
Interactive	19.5	7.4	12.7	6.4	16.1	7.6
Non-interactive	8.5	4.0	12.4	6.7	11.4	1.2
Combined Means	14.0	8.1	12.5	6.3	5.7	8.2

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Table 2. Mean number of events recalled and standard deviations for group and individual and interactive and non-interactive presentation conditions.

	<u>Group</u>		<u>Individual</u>		<u>Combined Means</u>	
	<u>x</u>	<u>SD</u>	<u>x</u>	<u>SD</u>	<u>x</u>	<u>SD</u>
Interactive	9.8	1.9	6.5	3.7	8.2	3.3
Non-interactive	4.7	2.2	6.8	2.2	5.7	2.4
Combined Means	7.2	3.4	6.7	2.9	3.1	2.8

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Table 3. Mean number of primary story elements recalled and standard deviations for group and individual and interactive and non-interactive presentation conditions.

	x	SD	x	SD	x	SD
Interactive	4.6	1.0	2.5	2.2	3.6	2.0
Non-interactive	1.8	1.6	2.8	1.2	2.3	1.4
Combined Means	3.2	1.9	2.7	1.7	1.8	1.9